

WHAT IS CLAIMED IS:

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1. An inspection method of a terminal metal fitting having an wire connecting portion having a wall carrying an electric wire and a crimping piece bent toward the wall so as to fasten the electric wire between the crimping piece and the wall, comprising the steps of:

5 illuminating the wire connecting portion fastened to the electric wire;
binary-processing an image of the wire connecting portion illuminated;
calculating an area less than or not less than a threshold value in image information obtained by the binary processing; and

10 judging good or bad of a fastening condition of the electric wire by the crimping piece on a basis of the area.

2. An inspection system of a terminal metal fitting having an wire connecting portion having a wall carrying an electric wire and a crimping piece bent toward the wall so as to fasten the electric wire between the crimping piece and the wall, comprising:

15 a light source to illuminate the wire connecting portion;
an image-taking means to take an image of the wire connecting portion;
a dark box, with a dark inner surface, to cover at least an object side of the image-taking means, the light source, and the terminal metal fitting for preventing outer light from shining on the wire connecting portion; and

20 a judging means to binary-process an image of the wire connecting portion illuminated by the light source and judge good or bad of a fastening condition of the electric wire by the crimping piece on a basis of an area less than or not less than a threshold value in image information obtained by the binary processing,

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wherein the image-taking means and the light source are arranged so that the light thrown from the light source and reflected by the crimping piece does not enter the image-taking means, and a sheathing portion of the electric wire is a light color.

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3. The inspection system of the terminal metal fitting as set forth in claim 2, wherein

the image-taking means faces the wall of the wire connecting portion to which the electric wire is fastened,

10 and the light source is arranged at a position of making an angle θ between a line connecting the light source with the crimping piece and a direction of the electric wire fastened to the wire connecting portion so that the light thrown from the light source and reflected by the crimping piece does not enter the image-taking means.

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4. The inspection system of the terminal metal fitting as set forth in claim 3, wherein

the light source is arranged at a position of making the angle θ of not more than 45 degrees.

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5. An inspection system of a terminal metal fitting having an wire connecting portion having a wall carrying an electric wire and a crimping piece bent toward the wall so as to fasten the electric wire between the crimping piece and the wall, comprising:

25 a light source to illuminate the wire connecting portion;

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an image-taking means to take an image of the wire connecting portion;
a judging means to binary-process an image of the wire connecting portion illuminated by the light source and judge good or bad of a fastening condition of the electric wire by the crimping piece on a basis of an area less than or not less than a threshold value in image information obtained by the binary processing,

5 wherein the image-taking means and the light source are arranged so that the light thrown from the light source and reflected by the crimping piece enters the image-taking means.

10 6. The inspection system of the terminal metal fitting as set forth in claim 5, wherein

the image-taking means faces the wall of the wire connecting portion to which the electric wire is fastened,

15 and the light source faces the wall of the wire connecting portion, to which the electric wire is fastened, near the image-taking means so that the light thrown from the light source and reflected by the crimping piece enters the image-taking means.

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7. The inspection system of the terminal metal fitting as set forth in any one of claims 2-6, wherein

20 the judging means judges good or bad of a fastening condition of the electric wire on a basis of an area less than or not less than a threshold value in an inspection area in the image of the wire connecting portion taken by the image-taking means, the inspection area being provided for each crimping piece and including at least partial image of the crimping piece.

8. The inspection system of the terminal metal fitting as set forth in claim 7,
wherein

the inspection area is positioned over a longitudinal axis of the electric wire
fastened to the wire connecting portion.